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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,983	08/02/2001	Martin Haase	DE920000060US1	6123

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EXAMINER	
VO, HUYEN X	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/920,983	HAASE ET AL.	
	Examiner	Art Unit	
	Huyen X. Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6 and 8-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-6, and 8-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *8/2/2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 6, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shriberg et al. (incorporated by reference) in view of Elko et al. (US 4741038).

3. Regarding claims 1 and 11-12, Shriberg et al. disclose a method, a computer usable medium having computer readable program code, and a digital audio processing system for the segmentation of an audio stream into semantic or syntactic units wherein the audio stream is provided in a digitized format, comprising the steps of: determining a fundamental frequency for the digitized audio stream (*Section 2.1.2.3 on page 133*); detecting changes of the fundamental frequency in the audio stream (*pages 134-135, refer to figure 4*); determining candidate boundaries for the semantic or syntactic units depending on the detected changes of the fundamental frequency (*pages 134-135*); extracting and combining a plurality of prosodic features in the neighborhood of the candidate boundaries (*section 2.1.1 on page 130 and section 2.1.4 on page 137*); and

determining boundaries for the semantic or syntactic units depending on the at least one prosodic feature (*pages 134-135, F0 is a prosodic feature*).

Shriberg et al. fail to specifically disclose the step of detecting the changes of the fundamental frequency includes providing a threshold value for estimates of the fundamental frequency's voicedness and determining whether the voicedness of the fundamental frequency estimates are higher or lower than the threshold value, and wherein the voicedness of the fundamental frequency estimates lower than the threshold value equals no voice, and wherein the voicedness of the fundamental frequency estimates higher than the threshold value equals voice. However, Elko et al. teach the step of detecting the changes of the fundamental frequency includes providing a threshold value for estimates of the fundamental frequency's voicedness and determining whether the voicedness of the fundamental frequency estimates are higher or lower than the threshold value, and wherein the voicedness of the fundamental frequency estimates lower than the threshold value equals no voice, and wherein the voicedness of the fundamental frequency estimates higher than the threshold value equals voice (*col. 11, lines 29-39*).

Since Shriberg et al. and Elko et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Shriberg et al. by incorporating the teaching of Elko et al. in order to enable the system to pay more coding emphasis on the voice portion than unvoiced portion to reduce processing time and increase transmission rate.

4. Regarding claims 6 and 10, Shriberg et al. further disclose the method of claim 1, wherein at least one prosodic feature is represented by the fundamental frequency (*Section 2.1.1, page 130*) and the step of performing a prosodic feature classification based on a predetermined classification tree (*section 2.1.2 on page 131, grouping features*).

5. Claims 3-5, 8, and, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shriberg et al. (incorporated by reference) in view of Elko et al. (US 4741038), as applied to claim 1, and further in view of Yeldener et al. (US 5774837).

6. Regarding claims 3 and 13, Shriberg et al. fail to specifically disclose a method for defining an index function for the fundamental frequency having a value =0 if the voicedness of the fundamental frequency is lower than the threshold value and having a value =1 if the voicedness of the fundamental frequency is higher than the threshold value. However, Yeldener et al. teach a method for defining an index function for the fundamental frequency having a value =0 if the voicedness of the fundamental frequency is lower than the threshold value and having a value =1 if the voicedness of the fundamental frequency is higher than the threshold value (*col. 14, ln. 4-55, the goal is to use 0 and 1 to represent for unvoiced and voice portions, respectively*).

Since Shriberg et al. and Yeldener et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Shriberg et al. by incorporating the teaching of

Yeldener et al. in order to enable the system to pay more coding emphasis on the voice portion than unvoiced portion to reduce processing time and increase transmission rate.

7. Regarding claims 4-5, Shriberg et al. further disclose a method for extracting at least one prosodic feature in an environment of the audio stream where the value of the index function is equal 0 (*section 2.1.1 on page 130 discusses feature extraction of both voice and unvoiced portions*), that the environment is a time period between 500 and 4000 milliseconds (*Section 2.1.1 on page 130*).

8. Regarding claim 8, Shriberg et al. do not disclose a method that first detect speech and non-speech segments in the digitized audio stream and performing the steps of claim 1 thereafter only for detected speech segments. However, Yeldener et al. teach a method that first detect speech and non-speech segments in the digitized audio stream and performing the steps of claim 1 thereafter only for detected speech segments (*col. 14, ln. 5-55*).

Since Shriberg et al. and Yeldener et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Shriberg et al. by incorporating the teaching of Yeldener et al. in order to enable the system to pay more coding emphasis on the voice portion than unvoiced portion to reduce processing time and increase transmission rate.

9. Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shriberg et al. (incorporated by reference) in view of Elko et al. (US 4741038), in view of Yeldener et al. (US 5774837), as applied to claims 8 and 13 above, and further in view of Eryilmaz (US 5867574).

10. Regarding claims 9 and 14, the modified Shriberg et al., as applied to claims 8 and 13 above, fail to disclose a method of detecting of speech and non-speech segments comprises utilizing the signal energy or signal energy changes, respectively, in the audio stream. However, Eryilmaz teaches a method of detecting of speech and non-speech segments comprises utilizing the signal energy or signal energy changes, respectively, in the audio stream (*col. 3, ln. 40 to col. 4, ln. 54*).

Since the modified Shriberg et al. and Eryilmaz are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Shriberg et al. by incorporating the teaching of Eryilmaz in order to enhance the detection of voice portion in the signal when background noise is present.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HXV

9/21/2005

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W. R. YOUNG
PRIMARY EXAMINER